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# THE ARCHIVE OF UNNAMED WORKERS

## Examining the Legacy of Colonial-Era Photography in AI

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### Introduction

This chapter explores how art practices that use Artificial Intelligence (AI) can point towards representational gaps and function as a form of archival activism. The first section of the chapter looks at the context of our investigation, examining archaeology-related photographic archives in museums formed during the colonial period in Cyprus, spanning 1878 to 1960. When brought together, these archives present a fragmented and incomplete history of Cypriot archaeology, especially when appearing online. The second section investigates how AI image generation makes use of existing datasets to produce new visual representations; databases which by nature reproduce power imbalances inherited from colonial-era photography. The third section presents and discusses an artwork titled "The Archive of Unnamed Workers" (2022) as an example of how artistic practices may use AI to reveal the inherent power imbalances found in historic archives, point towards visual gaps, and make an argument for the decolonization of Cypriot archaeology.

"The Archive of Unnamed Workers" is a collaboration between the co-authors of this paper – two Cypriot artists/researchers with a special interest in museums, archives, and postcolonial theory. Theopisti Stylianou-Lambert has been "excavating" archaeology-related archives for a few years now and has led a research project which examined selected museum archives in the UK and Cyprus, with an aim to develop policy suggestions on how these archives can be decolonized and given new uses (Hellenic Observatory 2022). Within the aims of this research project, selected archives are examined in terms of what they represent, along with their history, materiality, accessibility, and uses. Special attention is given to representations of local workers who worked at archaeological excavations during the colonial period. Alexia Achilleos is currently a practice-led PhD Fellow at the CYENS Centre of Excellence and the Cyprus University of Technology. She examines local AI ethics from an art and humanities perspective, specifically through postcolonial, decolonial and feminist theory. It is in the intersection of our interests that this project was conceived and created; the intersection of photographic archives, big data, AI, and postcolonial theory.

## Colonial Cyprus and Archaeology-Related Photographic Archives

Born at the same time, photography and professional archaeology are bound together in their pursuit of accuracy, information, and detailed representation (Hamilakis & Ifantidis 2015). In archaeology, photography is utilized alongside cartography and drawings to measure, classify, record, and illustrate knowledge produced during fieldwork. During British colonial rule in Cyprus (1878–1960), the island saw an explosion of foreign explorers, excavators, and archaeologists who, to various degrees, measured, recorded, and photographed archaeological sites, objects, and, occasionally, local people. As in other colonial areas, the early history of archaeology in Cyprus is dominated by male foreign protagonists who played an important role in documenting and promoting Cypriot archaeology, while simultaneously exporting antiquities to various museums abroad (e.g. the Louvre, the Metropolitan Museum of Art, the British Museum, the Ashmolean, the Medelhavsmuseet). As part of this activity, photographs of archaeological sites and objects (often kept in neat group arrangements or mounted alone on a white or black background) were sent to museums, collectors, and publishers to document expeditions and/or stimulate purchase interest. Eventually, some of these photographs formed the photographic archives of museums that collected Cypriot antiquities. For example, the British Museum owns a large book, which includes photographs and annotations, related to Cypriot archaeology. Most of the photographs show objects found in Cyprus and were sent to the British Museum in the nineteenth and early twentieth centuries. The photographs might come from expeditions that the museum was involved in or from excavators who wanted to advertise their finds in hopes of a potential purchase by the museum. According to the British Museum's Curator of the Department of Greece and Rome, Dr Thomas Keily, "As the photos were sent to the Department they would have been stuck in the book" (Keily 2022). As a result, various photographs – often by unknown photographers – appear as they were stuck in the book on their arrival by museum staff.

Photographic archives in museums play a crucial role in constructing knowledge and are generally considered a source of unbiased and evidential information about the past. However, researchers are well aware that archives represent a limited and biased version of reality (Edwards and Lien 2014). Furthermore, photography is a highly selective tool, is connected to issues of power, and has never been innocent or value-free (Tagg 1999). As Christina Riggs argues: "It would be impossible to separate either archaeology or photography from the power structures, economic relations and subject formations that colonial modernity entailed" (Riggs 2019: 5–6). Riggs proposes an understanding of archives as being constructed and fused with colonial attitudes. Decolonizing efforts in museums (especially those with a colonial history) start with an acknowledgment that museum collections are the result of particular choices and that what becomes known as the 'official' history is shaped by power imbalances and is necessarily incomplete (Museums Association 2021).

In our case study, these power imbalances are evident in the way both foreign archaeologists and locals are represented. In her book *Photographing Tutankhamun*, Christina Riggs (2019) examines photographs by Harry Burton who was accompanying archaeologist Howard Carter in the excavations of Tutankhamun's tomb in 1923 and notes that, in archaeological photographs of Africa and the Middle East, the indigenous people are usually absent or misrepresented. When they are caught by the photographic lens, their names are not mentioned in publications. She concludes that "absence is in the nature of archive" (Riggs 2019: 164). When we examined the representations of colonial photographic docu-

mentation of archaeological excavations in the nineteenth and early twentieth centuries in Cyprus, we encountered something similar. We came across the expected images of empty archaeological sites (as sites of knowledge) and close-up photographs of archaeological objects (as evidence of finds). We observed mainly foreign archaeologists portrayed alone at archaeological sites, overseeing work, or handling artifacts. In the rare cases where local workers were included in the photographs, they were usually portrayed working together or in staged group arrangements. In essence, local workers were considered a mindless workforce; the “hands” of archaeology, while foreign excavators were photographed as seers, seekers, scholars, the “mind” and “eyes” of archaeology (Stylianou-Lambert 2021).

As we have seen, the attitudes and beliefs of colonial archaeologists influenced what was photographed and how. However, we need to keep in mind that the reality was much more complex than what photographs show. A mutual dependency developed between foreign archaeologists and the local population: Foreign archaeologists depended on the local workforce to locate and unearth artifacts while many Cypriots were dependent on mainly manual archaeological work for their livelihood. Also, foreign archaeologists depended heavily on their local foremen who had the knowledge and connections to help acquire land, find workers, buy equipment, coordinate the digs, etc. Often, these foremen directed their own excavations and had very close relationships with the archaeologists. These relationships are not immediately apparent in the photographs of the time.

As a result of the recognition that archives are not impartial or neutral, various initiatives have been undertaken by organizations, institutions, and government-supported projects to challenge discrimination, fill in collection gaps, and empower heritage institutions to reinterpret their collections (Flinn 2011). Referring to the practices of galleries, libraries, archives, and museums (known as GLAM institutions) and community-led projects, this process has been described as “archival activism” (Flinn 2011; Findlay 2016; Iacovino 2015). Archival activism may include acquiring collections which represent the whole of a society, updating catalogs, bringing hidden stories to the front, reviewing collections’ descriptions/metadata, or working with the communities portrayed. Sometimes, to enrich collections, museum professionals need to search for archives outside their institutions; archives that were not considered important in the past, created by marginalized people, or that are difficult to find. Decolonization from within the museum requires a change of attitude and a shift in perspectives which should also be reflected in its photographic archives.

In the case of Cypriot archaeology of the colonial era, there are several photographic archives dispersed throughout various museums and academic institutions in the UK (e.g. the British Museum, the Ashmolean Museum, the Pitt Rivers Museum, and the University of Oxford) and in Cyprus (e.g. the Department of Antiquities of the Republic of Cyprus, the University of Cyprus, and the Cultural Foundation of the Bank of Cyprus). Apart from the UK and Cyprus, such archives are also dispersed in countries like the USA (e.g. Penn Museum, The Metropolitan Museum of Art) and Sweden (e.g. Medelhavsmuseet).

In the name of accessibility, research, and education, museums have recently intensified the digitization of their photographic archives to make them available online. However, not all museums have the human and financial resources to digitize, categorize, and make their photographic archives available online. Often, certain archives are given priority over others because they are perceived as more fragile and in need of preservation. Other times, the digitization of archives depends on research interests and needs (i.e. for an exhibition, book, or academic research). As a result, the online ecosystem of museum photographic archives is fragmented and equally incomplete. Most of the aforementioned museums that hold

archaeology-related material from colonial Cyprus have cataloged and digitized their analogue archives to some extent, but only a few have made their complete archives available online. It is also worth remembering that archaeological photographs are part of a larger system of documents that supported the work of archaeologists and include material such as letters, maps, diaries, and drawings. Apart from the fact that not all archives are available online, it is this broader context that is missing when looking at individual photographs online. This incomplete pool of dispersed, online images, which are removed from their initial context, are the ones scraped off the web and used as data sets in AI-generated images.

### **AI-Generated Images and the Perpetuation of Power Imbalances**

Generative AI models, and specifically text-to-image tools, have made great advancements in the past five years. Current state-of-the-art models, such as DALL·E 2 (OpenAI 2022) and Midjourney (Midjourney 2023) have near-photorealistic qualities; a substantial improvement compared to the semi-abstract images generated by text-to-image models only a few years ago (for example, see AttnGAN in Xu et al. 2017). Despite these technological leaps, the outputs of generative AI continue to perpetuate colonial-era worldviews and power asymmetries. This section discusses how legacies of colonial-era narratives of Cypriot archaeological photographic archives are transferred to generative AI text-to-image tools.

Despite claims of objectivity by the AI industry, large datasets used to train AI models have often proven to be unreliable (Boyd and Crawford 2012). Indeed, hegemonic narratives and power asymmetries are transferred to generative text-to-image AI tools through the quality of the data used to train such models. AI datasets have been shown to have inherited historic patterns and worldviews (Crawford and Paglen 2021), which exacerbate wider existent power imbalances (Abebe et al. 2021) and further marginalize historically minoritized groups (D’Ignazio and Klein 2020). One reason for this is the common method used to collect the vast amounts of data that are required to train models – the practice of scraping data, such as images, from the internet (Crawford 2021). Web-scraped datasets, however, reflect the distorted worldview of the internet as seen from a white, straight, male, and Christian perspective (Noble 2018).

Although private AI companies, such as DALL·E 2’s creator OpenAI, do not disclose the data that their models have been trained on, most generative AI models rely on web-scraped training data (Heaven 2022). One such dataset is LAION-5B, which is composed of five billion image-text pairings that have been scraped from the internet (Schuhmann et al. 2022) and has been used to train text-to-image models (Heaven 2022). LAION-5B’s creator, the non-profit organization LAION.ai, has released its datasets to the public, which has allowed examination of such datasets’ content and generation. Birhane et al.’s (2021) investigations of the LAION-400M, an earlier iteration, have found that its contents perpetuate “historical, social, and cultural stereotypes and political biases” and “Anglo-centric, Euro-centric, and potentially, White-supremacist ideologies” (Birhane et al. 2021: 4). This skewed worldview can be problematic when models trained on such datasets are used to generate non-Western content or used by non-Western users. Critical examinations of generative AI have shown how generative imaging models impose Western cultural elements to depictions of non-Western societies (Jenka 2023), generate exoticized, stereotypical representations of non-Western ethnic groups, and sexualized depictions of women (Heikkilä 2022).

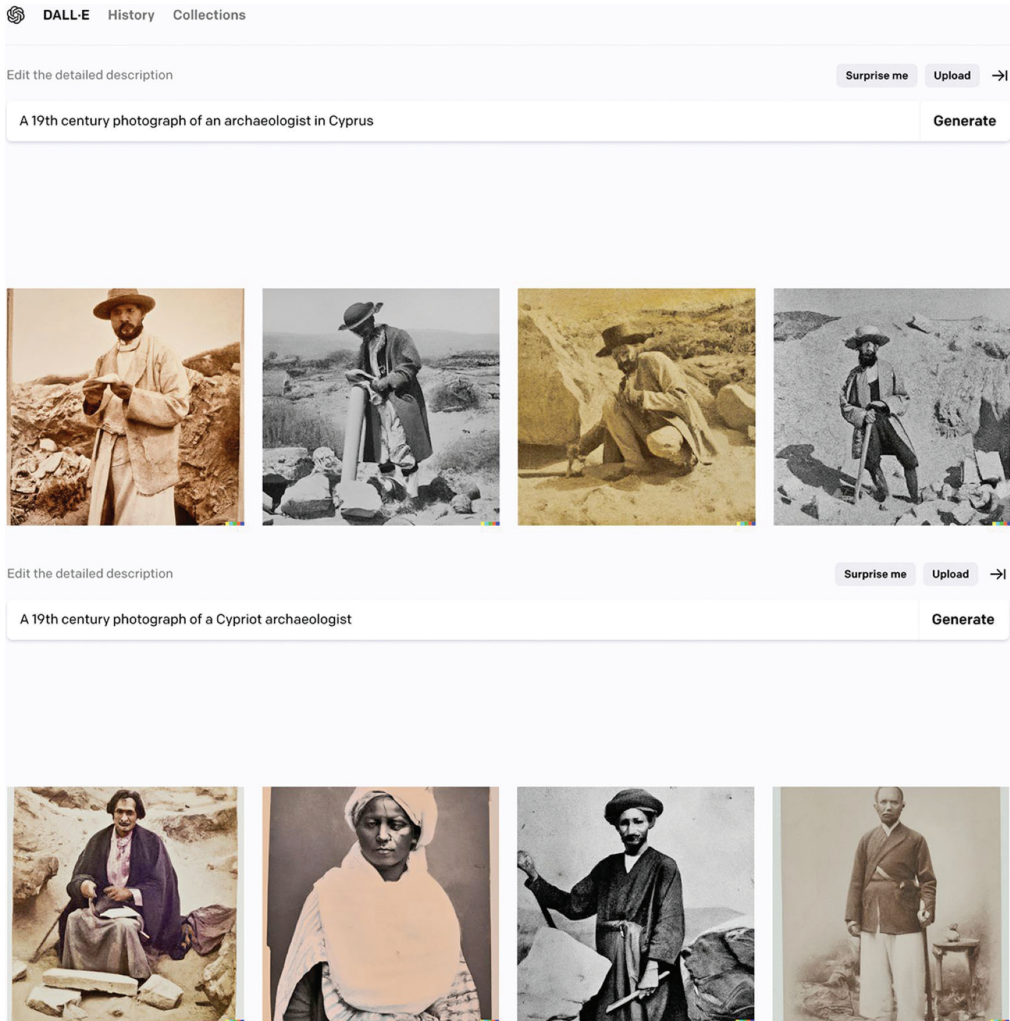


Figure 24.1 Images generated by DALL-E 2 from text prompts given by Theopisti Stylianou-Lambert and Alexia Achilleos on 1 May 2023. Courtesy of the artists.

Therefore, perhaps it is not surprising that historical power asymmetries and hegemonic, colonial-era narratives found in archaeological photographic archives of colonial-era Cyprus also come across in algorithmically curated depictions of archaeology. For example, when given the text prompt “A 19th century photograph of an archaeologist in Cyprus” to DALL-E 2, the model generated images of exclusively white men wearing Western clothing at a location that resembles an archaeological site, such as the generated examples in the top row of Figure 24.1, providing a gendered and racialized representation of what an archaeologist of that time would look like, following hegemonic narratives. On the other hand, when given the prompt “A 19th century photograph of a Cypriot archaeologist” as in the bottom row, the model was unable to generate images that bear any resemblance to

historic portrayals of the Cypriot population at the time (for example, wearing traditional Cypriot clothing). Instead, the model's outputs portray Orientalizing depictions of a variety of non-white people, only one of them placed visually in an archaeological context. The algorithmic representation of the "Cypriots" is generated through an Orientalizing Western gaze, portraying stereotypical interpretations and representing non-Western society as a monolith. Of course, we can produce countless images, but the results are more or less similar in terms of gender and race.

The data that generative AI models are trained on influence the outputs they generate. The gendered and racialized outputs of models such as DALL-E 2 reflect the distorted worldviews and narratives of their training datasets. Through user interfaces (UI) such as *clip front*, it is possible to "excavate" the data included in AI training datasets. The UI retrieves data that has been included in the LAION datasets, either through text queries, or by uploading an image and conducting a visual search (Beaumont 2021). Such investigations of the LAION datasets show that colonial-era photographs belonging to archaeological archives, that are available online, have been scraped and included in AI datasets.

When these photographs are shown as results when undertaking text queries, they also highlight the gaps in historic photography practices. When querying "A 19th century photograph of an archaeologist in Cyprus" on *clip front*, the majority of images that the UI presents are of white, non-Cypriot men, wearing Western clothing, similar to the images generated by the text-to-image model. No local, non-Western workers are included in the image results. Moreover, the search query "19th century Cypriot archaeologist" presents historic portraits of men from various Middle Eastern, Balkan, and Eastern Mediterranean countries (with no instances of Cypriots) who are not portrayed in an archaeological context. The fact that *clip front* does not return any images of Cypriot workers or other agents affirms how the lack of Cypriot representation of archaeological photographs of that period has a direct influence on image production that is informed by these AI datasets, despite the participation of locals – both men and women – in the documented archaeological excavations. As training data, these photographs transfer narratives and worldviews embedded in historical photography and continue to have an impact on how various groups of people are represented in generative AI. In the above examples, they perpetuate colonial-era narratives of archaeology being a gendered, racialized, Western profession.

The next part of this chapter will present an artistic investigation which, using generative AI, attempts to creatively counter this issue, and instead aims to make visible an essential part of colonial-era history of Cypriot archaeology which has been largely left out. Our interdisciplinary artistic work attempts to negotiate the absences, distortions, and omissions of archaeology-related photographic archives.

### **"The Archive of Unnamed Workers"**

"The Archive of Unnamed Workers" (2022) includes forty fictional portraits of Cypriot workers that were created using Generative Adversarial Network (GAN) machine-learning technology. Despite their photorealism, the final images are artificially created, and do not portray specific people. Instead, they pay tribute to the countless and unphotographed workers who contributed to Cypriot archaeology but who remain unnamed and unacknowledged.

Generative Adversarial Network (GAN) machine-learning technology was first introduced in 2014 and has since continued to improve in image quality and size (for example, Karras et al. 2020). When supplied with enough training images, a GAN "learns" to gener-

ate new synthetic ones that are based on its training data. To do so, two algorithms work together: a “generator” which produces artificial outputs and a “discriminator”, which then compares these outputs with the original datasets and attempts to determine the real and the fake (K-tech Centre of Excellence 2021). Provided there is an adequate training data set, pitting the two algorithms against each other can produce new photorealistic images. To create new, machine-made portraits, we needed as many photographs portraying Cypriot workers as possible. We sourced our images from the photographic archives of the Swedish Cyprus Expedition (Medelhavsmuseet, n.d., online), the John Linton Myres photographic archive (HEIR, University of Oxford, n.d., online), Luigi Palma di Cesnola (courtesy of the Cultural Centre of the Bank of Cyprus, offline), as well as photographs from the photographic archive of the Department of Antiquities in Cyprus (offline). One hundred and six photographs of workers posing in groups or working together were cropped like passport photographs in a uniformed square format and then fed into the system. This constituted our training data and the source material for the creation of the new portraits. Because colonial archives do not have many representations of Cypriot workers, and when they do, they appear very small, the resulting machine-made portraits were sometimes distorted and out-of-focus. In the new portraits, most workers appear to be smiling and looking at an imaginary “camera” as most of the images derived from staged group photographs. Due to the nature of GAN image generation, the new portraits cannot diverge much from what is already available, and thus the power imbalances cannot be removed from these images. This questions even the very point of this project. “The Archive of Unnamed Workers” can point towards gaps of representations but can only do so by using the visual language and canons of existing colonial photography.

Out of hundreds of generated portraits of men and women, we selected forty that we felt were less distorted and repetitive. Interestingly, the AI portraits seem very familiar to contemporary Cypriot viewers. As they were produced from photographs of actual Cypriots in the late nineteenth and early twentieth centuries, their physiognomy reminds us of real people – grandparents, aunts and uncles, friends and relatives. As we have observed in the previous section, this is something that current AI-generated software such as DALL·E 2 is unable to do as it produces either images of white, Western men, or alternatively, exoticized, non-Western people who do not look Cypriot.

Photographic archives of the period under investigation have a very real and tangible materiality: they are stored in boxes and are composed of negatives, lantern slides, 35mm slides, photographic prints, etc. It was extremely important for us to “return” the AI-generated images back into a materiality appropriate for a missing archive of the past. Not because AI images do not have a tangible material presence (they do so through screens, computers, data centers, etc.) but because the photographic technologies of the past shaped archives and their representations and are thus an essential part of any archive. For this reason, we decided to transfer the images to 35mm glass photographic slides (reversal film), a technology widely used in the mid-20th century that is almost obsolete today. To do so, we needed to send the digital images to a photo studio in Finland that kept blank old glass slides salvaged from other studios’ closing-down sales to create the physical slides and return them to us by mail (see Figure 24.2).

The completed work was presented for the first time in an exhibition titled “In the Sea of the Setting Sun: Contemporary Photographic Practices and the Archive” (November 2022–April 2023) that took place at the State Gallery of Contemporary Art – SPEL, in Nicosia, Cyprus. A collaboration between the newly formed Deputy Ministry of Culture



Figure 24.2 Theopisti Stylianou-Lambert and Alexia Achilleos, “The Archive of Unnamed Workers”, 2022. GAN-generated images on 35mm glass photographic slides (reversal film). Photograph by Theopisti Stylianou-Lambert.

and the International Association of Photography and Theory, the exhibition showcased the work of seventeen Cypriot artists, based in Cyprus and abroad, whose work engages with photographic archives and contemporary photographic practices. According to the exhibition’s curator, Elena Stylianou:

The works in this exhibition negotiate the tensions between romanticized understandings of the archive as a dusty place where one can retrieve treasures of the past and connect with history, and the archive as a metaphor or concept directly linked to the construction of interdisciplinary knowledge, systems of political imagination, power structures, the formation of national consciousness, and patterns of exclusion.

*(International Association of Photography and Theory 2022: n.p.)*

In the context of this exhibition, “The Archive of Unnamed Workers” aimed to expose power structures and patterns of exclusion. Our work was firmly positioned in postcolonial and feminist theories, and we attempted to stretch the boundaries of what is considered photographic.

In the exhibition, the portraits were projected using a Kodak carousel slide machine with a warm light bulb which created a more “archival” feel. A large white cube was constructed to house the projection and viewing the projection was only possible through pinholes at various heights on the white cube (Figure 24.3). The white cube created a feeling of a



*Figure 24.3* Theopisti Stylianou-Lambert and Alexia Achilleos. “The Archive of Unnamed Workers”, 2022. GAN-generated images on 35mm glass photographic slides (reversal film). Views from the exhibition ‘In the Sea of the Setting Sun’ at the State Gallery of Contemporary Art - SPEL, Nicosia, Cyprus. Exhibition curated by Elena Stylianou, November 2022–April 2023. Photograph by Theopisti Stylianou-Lambert.

closed, inaccessible space – much like many photographic archives found in museums – that visitors had to physically approach and try to look through. But as soon as visitors made this effort, the small, soft-focused, warm-colored projections of familiar, smiling faces created a sense of intimacy and familiarity.

### Conclusion

Archives are born from a human tendency to impose order and carve distinct areas of homogeneity out of chaos (Kopytoff 1986). As we have seen, despite the efforts to collect, organize and catalog, photographic archives of Cypriot archaeology remain fragmented and incomplete. The photographic lens functioned as an extension of the human eye (Zylinska 2017); the eyes of foreign archaeologists who saw a local workforce as the “hands” of archaeology and not important enough to name or document their contributions. As such, photographic archives represent the “standpoint” of the foreign archaeologists and reproduce power imbalances.

The legacies of colonial-era archives seem to be perpetuated by AI technologies. Colonial-era photographs from archaeological archives that are available online have been scraped by AI companies and included in datasets used to train generative AI models. In turn, the values and power dynamics embedded in those photographs have been transferred to the images generated by text-to-image models. Generative AI is developing fast, and the technology analyzed in this chapter has already been outperformed by new

generative AI tools. However, the transfer of historical power imbalances onto technology will continue unless attempts are made to address root causes of structural oppression and systemic power asymmetries (Birhane & Guest 2020; D'Ignazio & Klein 2020; Harding 2009).

Our art-based research and artistic practice aims to raise awareness about the omissions and distortions of archaeological archives and their effect on knowledge production. According to Finley, arts-based research “makes use of emotive, affective experiences, senses and bodies, and imagination and emotion as well as intellect, as ways of knowing and responding to the world.” (Finley 2008: 72). “The Archive of Unnamed Workers” is our way of responding to the representational gaps found in photographic archives in museums and speculating on a locally grounded, alternative fictional archive. We cannot go back in time to photograph the omitted, but art gives us the tools to imagine what might have been, question power imbalances, and point towards representational gaps. Having said that, we are well aware of the limitations of artistic practice to physically “fill in the gaps” of archaeological history or make an actual change in the museum ecosystem. Furthermore, one would assume that generating these new images and posting them online would somehow change the “ecosystem” of AI-generated images, ever so slightly. The process, however, is more complex. Firstly, current web-scraped AI datasets are static. The data they contain are a snapshot of the internet, from a specific moment in time when the data was scraped. For example, the LAION-5B dataset was released in 2022 (Schuhmann et al. 2022) and does not include any new images that were uploaded to the internet after its release. Consequently, current text-to-image models generate outputs that are based on the static datasets that they were trained on – they are not continually updated with newer data. To change the scope of images that are generated, the system must be trained again on a different dataset (for examples, see Midjourney 2023). Secondly, as mentioned, datasets such as LAION-5B consist of billions of image-text pairings which are needed to train a generative AI model to produce high-quality images from text prompts. In order to affect how, for example, an archaeologist is represented in text-to-image AI, it would not be enough to simply add thousands of new images of archaeologists. In addition, we argue, a thorough audit, decolonization and relabeling of the text pairings throughout the entire dataset would be required to challenge the systemic colonial, patriarchal worldviews that form the AI “gaze”. This is a highly challenging task to undertake, due to the vast size of these datasets.

To conclude, our work does not really change the museum archival ecosystem or the future material produced by AI. Instead, our work is a form of institutional critique or archival activism which illuminates gaps and power imbalances in museum photographic archives. Finally, we need to acknowledge that, as the photographic archives we examined are the product of their time, “The Archive of Unnamed Workers” is also a product of its time: only possible through the lens of today’s postcolonial theories and with the help of online archives and new technological tools.

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